

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
22 January 2004 (22.01.2004)

PCT

(10) International Publication Number  
**WO 2004/007853 A3**

(51) International Patent Classification<sup>7</sup>: E03C 1/04,  
F16B 43/00

(21) International Application Number:  
PCT/GB2003/002992

(22) International Filing Date: 11 July 2003 (11.07.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
0216121.4 11 July 2002 (11.07.2002) GB

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(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,  
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,

GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG,  
SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN,  
YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,  
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,  
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

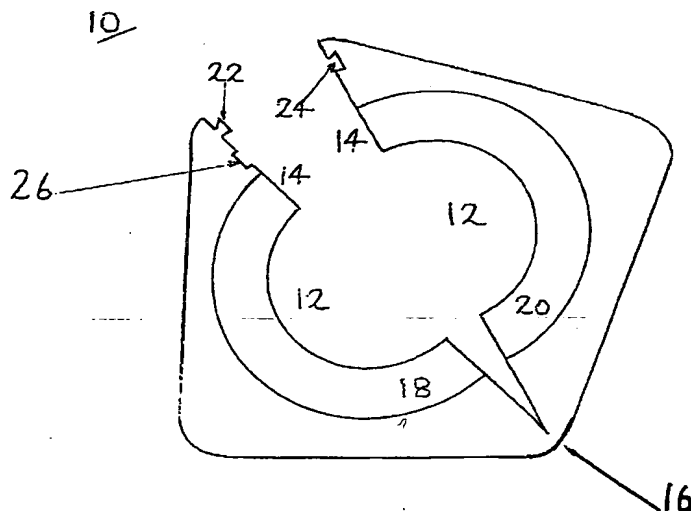
**Published:**

- with international search report
- before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments

(88) Date of publication of the international search report:  
15 April 2004

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: WASHER



(57) Abstract: A splittable washer shown generally at (10), for example for use in a plumbing installation in which a pipe member is mounted in or connected to an article of sanitaryware, comprises separable parts (18) and (20) which are held together by hinge (16). When the washer is in the open configuration it may be fitted to or removed from the stem of tap on the underside of a sanitaryware unit without having to remove a securing nut from the stem of a tap. To close a washer the parts (18) and (20) are urged together until key projection (22) locates in socket (24). In the closed configuration the washer substantially encloses the stem of a tap.

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# INTERNATIONAL SEARCH REPORT

PCT/GB 03/02992

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 E03C1/04 F16B43/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 E03C F16B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EP0-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 1 418 052 A (BARTON CHARLES N) 30 May 1922 (1922-05-30) page 2, line 38 - line 44; figures 1-5 ---	1-9, 22-25
X	US 1 597 525 A (KNAKE ARTHUR H) 24 August 1926 (1926-08-24) the whole document ---	1-7, 22-25
X	US 3 495 496 A (KEIM MELVILLE) 17 February 1970 (1970-02-17) column 1, line 43 - line 60 column 2, line 48 - line 48; figures 1-3 ---	1,3,5-9, 22
X	US 1 812 657 A (REINHARD LEITZKE) 30 June 1931 (1931-06-30) the whole document ---	1,4, 7-10,22
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

29 January 2004

Date of mailing of the international search report

09.02.2004

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PCT/GB 03/02992

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 502 165 A (LEE KENNETH ET AL) 5 March 1985 (1985-03-05) abstract; figure 1 column 2, line 46 - line 62 ---	1,7-10, 22
X	GB 1 515 257 A (BARKING BRASSWARE) 21 June 1978 (1978-06-21) the whole document ---	1,7-10, 22
A	DE 202 02 375 U (FRANZ BRINKMANN GMBH) 25 April 2002 (2002-04-25) page 8, line 14 - line 18 ---	11
X	US 5 044 854 A (OH JUNG HO) 3 September 1991 (1991-09-03) figures 4,6 ---	12,13, 18,21
X	US 4 560 312 A (GRADY JAMES H) 24 December 1985 (1985-12-24) figure 3 -----	12

# INTERNATIONAL SEARCH REPORT

PCT/GB 03/02992

## Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-11, 22-25

A washer comprising two parts forming a bore, the washer being able to enclose a pipe in the bore and allow to insert or withdraw a pipe radially from the bore, and a method therefor

2. Claims: 12-21, 26-27

A washer comprising a bore and a projection for locating the washer into a gap between a pipe and a sanitary appliance, and a method therefor

# INTERNATIONAL SEARCH REPORT

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 1418052	A	30-05-1922	NONE	
US 1597525	A	24-08-1926	NONE	
US 3495496	A	17-02-1970	NONE	
US 1812657	A	30-06-1931	NONE	
US 4502165	A	05-03-1985	NONE	
GB 1515257	A	21-06-1978	NONE	
DE 20202375	U	25-04-2002	DE 20202375 U1	25-04-2002
US 5044854	A	03-09-1991	KR 9001257 B1	05-03-1990
			US 5110243 A	05-05-1992
US 4560312	A	24-12-1985	NONE	